

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A separating vessel suitable for use in the treatment of a mineral sample wherein a molten slag is separated from a molten collector material, the separating vessel comprising:

a container defining an interior cavity for receiving the molten slag and the molten collector materials,

an outlet aperture leading from the interior cavity to the exterior of the container, ~~and~~

a separating surface associated with the outlet aperture, ~~which is the separating surface being~~ shaped to cause droplets of ~~flux-slag~~ to be carried along such surface, while droplets of collector material drip off such surface by the force of gravity, and

a collection vessel for collecting the collector material dripping off of such surface, the separating surface extending beyond the collection vessel so that the slag being carried along such surface is carried beyond the collection vessel and thereby separated from the collector material.

2. (Original) A separating vessel according to claim 1 wherein the separating surface is a downwardly directed concave surface.

3. (Original) The separating vessel according to claim 2 wherein the concave surface is concentrically disposed relative to the outlet aperture.

4. (Currently Amended) The separating vessel according to claim 1 wherein the outlet aperture has dimensions such that the collector material passes through the aperture under the force of gravity, while the molten ~~flux~~ material-slag is substantially prevented from passing through the outlet aperture, so that the majority of molten ~~flux-slag~~ will be arrested at the outlet aperture, but a small portion ~~which~~ of the molten slag may pass through the outlet aperture.

5. (Currently Amended) ~~A~~ The separating vessel according to claim 1
suitable for use in the treatment of a mineral sample wherein a molten slag is
separated from a molten collector material, the separating vessel comprising:
a container defining an interior cavity for receiving the molten slag and the
molten collector material,
an outlet aperture leading from the interior cavity to the exterior of the
container, and
a separating surface associated with the outlet aperture, the separating
surface being shaped to cause droplets of slag to be carried along such surface,
while droplets of collector material drip off such surface by the force of gravity,
wherein the outlet aperture is disposed at low level in the interior cavity,
and

a slag outlet ~~will be~~ is provided in the container spaced vertically upwardly from the outlet aperture, ~~the arrangement being one wherein~~ so that at least a portion of the molten slag which overlies overlying the collector material in the molten state ~~will drain~~ drains from the slag outlet during the process of draining the collector material through the outlet aperture.

6. (Canceled)

7. (Currently Amended) A method of separating molten collector material from molten slag suitable for use in the treatment of a mineral sample, the method comprising the steps of:

providing the separating vessel claimed in claim 1;

introducing a mixture of molten slag and molten collector material into the vessel, whereby the slag settles above the collector material as a result of density differentials;

draining the collector material through the outlet aperture under the force of gravity while the slag is substantially arrested by the outlet aperture;

further separating the collector material from the slag which has passed through the outlet aperture at the separating surface, where ~~at the~~ the collector material ~~runs~~ drips generally vertically downwardly from the exit of the outlet aperture under the force of gravity into the collection vessel, while the slag is

~~displaced laterally~~ carried along the separating surface beyond the collection vessel and thereby separated from the collector material.

8. (Currently Amended) ~~A~~ The method according to claim 7 wherein of separating molten collector material from molten slag suitable for use in the treatment of a mineral sample, the method comprising the steps of:

~~providing the~~ a separating vessel claimed in claim 1 comprising:

a container defining an interior cavity for receiving the molten slag and the molten collector material,

an outlet aperture leading from the interior cavity to the exterior of the container, and

a separating surface associated with the outlet aperture, the separating surface being shaped to cause droplets of slag to be carried along such surface, while droplets of collector material drip off such surface by the force of gravity,

introducing a mixture of molten slag and molten collector material into the vessel, whereby the slag settles above the collector material as a result of density differentials;

draining the collector material through the outlet aperture under the force of gravity while the slag is substantially arrested by the outlet aperture;

further separating the collector material from the slag which has passed through the outlet aperture at the separating surface, where ~~at the~~ collector

material ~~runs-drips~~ generally vertically downwardly from the exit of the outlet aperture under the force of gravity into the collection vessel, while the slag is ~~displaced laterally~~ carried along the separating surface beyond the collection vessel

providing a slag outlet is ~~provided~~ vertically upwardly spaced from the collector material outlet ~~including the step of~~ and draining slag through the slag outlet.

9. (Original) The method according to claim 8 wherein slag is drained through the slag outlet during or prior to draining the collector material through the collector material outlet aperture.

10. (Canceled)

11. (New) The separating vessel according to claim 1 wherein the outlet aperture is disposed at low level in the interior cavity, and a slag outlet is provided in the container spaced vertically upwardly from the outlet aperture so that at least a portion of the molten slag overlying the collector material in the molten state drains from the slag outlet during the process of draining the collector material through the outlet aperture.

12. (New) The method according to claim 7 further comprising the steps of providing a slag outlet vertically upwardly spaced from the collector material outlet and draining slag through the slag outlet.

13. (New) The method according to claim 12 wherein the slag is drained through the slag outlet during or prior to draining the collector material through the collector material outlet aperture.